



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,318	08/26/2003	Heiner Politze	1633.0050C	2031
27896	7590	07/12/2006	EXAMINER	
EDEL, SHAPIRO & FINNAN, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850			NGUYEN, TU T	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/647,318		POLITZE ET AL.	
	Examiner		Art Unit	
	Tu T. Nguyen		2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 13-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 2-4,6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/24/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-12) in the reply filed on 06/23/2006 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,5,8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Runciman (WO 00/07161).

With respect to claim 1, Runciman discloses a method for detecting smoke according to the scattered light principle. The method comprises: (a) emitting pulsed radiation of a first wavelength 32 (fig 5) into a measuring volume; (b) emitting pulsed radiation of a second wavelength 30 (fig 5) which is shorter than the first wavelength (page 4, lines 18-20) into the measuring volume; and (c) measuring separately a forward scattering light 34 (fig 5) and backward scattering light 38 (fig 5) of the first wavelength (longer wavelength) and a forward scattering light 36 (fig 5) and backward scattering light 40 (fig 5) of the second wavelength (shorter wavelength).

Runciman does not explicitly disclose emitting the first and the second wavelengths along a first and a second axis. However, the emitting sources 30 and 32 disclose in fig 5 clearly show the first and second light source being in different axis.

Runciman does not explicitly disclose a forward scattering angle being more than 90 degrees and a backward scattering angle being less than 90 degree. However, fig 5 shows that the forward angle of the detectors 34, 36 (fig 5) being located at the angle larger than 90 degrees with respect to the sources and the backscattered angle of the detectors 38, 40 (fig 5) being located at the angle less than 90 degrees with respect to the source.

With respect to claim 5, Runciman does not disclose measuring scattered light at the same forward and backward scattering angles for both wavelengths. However, it would have been obvious to modify Runciman by measuring the scattered light at the same angles for both wavelengths to calculate the ratio between the two measurements easier.

With respect to claim 9, Runciman discloses the first wavelength being in the region of the infrared radiation and the second wavelength being in the region of blue light or the region of ultraviolet radiation (page 4, lines 18-20).

With respect to claims 8,10-12, Runciman discloses all the claimed limitations except for the first wavelength and the second wavelength being not in an integral ratio

Art Unit: 2877

with respect to each other or the first wavelength being in the region of 880 nm and the second wavelength being in the region of 475 or 370 nm or a pulse/pause ration being greater than 1:10,000 or 1:20,000. However, it would have been obvious a designed choice to modify Ruciman with the claimed limitations above to use the detector in different environments.

Allowable Subject Matter

Claims 2-4, 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 2, the prior arts of record, taken alone or in combination, fail to disclose or render obvious the steps of: (d) subtracting from signal levels which correspond to measured intensities of the forward and backward scattered radiations of the first and second wavelengths, corresponding scaled quiescent value levels to produce weighted values; (e) evaluating the weighted values to determine whether an alarm condition exists; and (f) producing at least one alarm signal in response to the determining that an alarm condition exists, in combination with all the limitations in the base claim.

As per claim 6, the prior arts of record, taken alone or in combination, fail to disclose or render obvious the scattered radiations of the first and second wavelengths

Art Unit: 2877

are measured on opposite sides of the measuring volume on a same main axis, in combination with all the limitations in the base claim.

As per claim 7, the prior arts of record, taken alone or in combination, fail to disclose or render obvious the scattered radiations of the first and second wavelengths are emitted into the measuring volume from opposite sides along coinciding radiation axes, in combination with all the limitations in the base claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tu T. Nguyen
Primary Examiner
Art Unit 2877

07/07/2006